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ABSTRACT

The predictive validities of (1) a test of divergent thinking, (2) an experimental measure of creative performance, and (3) an inventory of creative personality characteristics were compared by correlating scores on each measure for 19 fifth graders with scores on the ACT Interest Inventory one year later. It was expected that each of the three creativity scores would predict interest in the creative arts. Scores on the creative performance measure significantly predicted interest in the creative arts, as expected. Scores on the creative personality inventory (the Group Inventory for Finding Creative Talent) predicted interest not only in the creative arts, but also in business contact and business detail. Scores on the divergent-thinking test (Pattern and Line Meanings) significantly predicted interest only in business contact. It was tentatively concluded that the creative performance measure is (1) more accurate than the divergent-thinking tests for predicting interest in the creative arts; and (2) more specific for this purpose than the creative personality inventory. (Author)

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Prediction of Interest in the Creative Arts from Scores on Creativity Measures

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Abstract

The predictive validities of 1) a test of divergent thinking, 2) an experimental measure of creative performance, and 3) an inventory of creative personality characteristics were compared by correlating scores on each measure for 19 fifth graders with scores on the ACT Interest Inventory one year later. It was expected that each of the three creativity scores would predict interest in the creative arts. Scores on the creative performance measure significantly predicted interest in the creative arts, as expected. Scores on the creative personality inventory (the Group Inventory for Finding Creative Talent) predicted interest not only in the creative arts, but also in business contact and business detail. Scores on the divergent-thinking test (Pattern and Line Meanings) significantly predicted interest only in business contact. It was tentatively concluded that the creative performance measure is 1) more accurate than the divergent-thinking test for predicting interest in the creative arts, and 2) more specific for this purpose than the creative personality inventory.

Prediction of Interest in the Creative Arts from Scores on Creativity Measures

The average number of responses to two items invented by the examinee on a divergent-thinking test seems to be a remarkably good indicator of creativity (Wakefield, 1985). Because the examinee actually invents two divergent-test items, the average number of responses to these items can be interpreted as a "creative performance score." Although research is continuing on this new approach to the study of creativity, it also needs to begin on the relative merits of different approaches.

The comparative validity of a number of tests can be assessed by correlating scores on each with some reasonable criterion of what is being measured. In the present study, the criterion selected for comparing the validity of three measures of creativity was interest expressed in the creative arts one year after the creativity tests had been administered. It was expected that scores on each creativity measure would significantly predict interest in the creative arts. No hypotheses were made regarding the prediction of other interests by the scores on creativity measures.

Method

Subjects

The fifth grade classroom which participated in the original study also participated in the study of predictive validity. All took the computerized version of UNIACT (the Unisex Edition of the ACT Interest Inventory) one year after the three creativity tests in the original study had been administered. Two of the 23 pariticipants were found by the computer program to have as yet undefined vocational interests. Two other sets of scores could not be recovered from the participants by the classroom teacher, who forwarded the remaining scores to the researcher. Thus of the 23 subjects of the original study, 19 (7 boys and 12 girls) became subjects one year later.

Instruments and Procedures

The three creativity measures compared were 1) a test of divergent thinking, as assessed by the average number of divergent responses to Cards 1-5 from Pattern Meanings and Cards 1-5 from Line Meanings in the Wallach and Kogan battery (1965, pp. 33-36); 2) a measure of creative performance, as assessed by the average number of mutually exclusive divergent

responses to a drawing by the examinee after Card 4 in each exercise; and 3) a measure of creative characteristics, as assessed through normal curve equivalent scores on the upper elementary form of the Group Inventory for Finding Creative Talent. The GIFT is a personality inventory designed to identify pupils who have characteristics (i.e., many interests, independence, and imagination) that are related to creativity (Rimm, 1980, 1984).

The reliabilities of the three creativity measures varied somewhat. The reliability of the divergent-thinking measure was estimated by correlating the average number of pattern meanings with the average number of line meanings and adjusting the coefficient by the Spearman-Brown prophecy formula. The resulting value (.94) indicated high reliability. The reliability of the measure of creative performance (divergent response to two self-set items) was also calculated by the Spearman-Brown formula, and it appeared to be acceptable (.82). The reliability of the GIFT score for the upper elementary form is reported in the manual to be intermediate (.88).

One year later, the group was administered a

computerized version (known as DISCOVER) of the Unisex Edition of the ACT Interest Inventory. Although this instrument is not typically administered to subjects in grade school, it did not seem inappropriate for above-average sixth graders in April. The 90 item inventory was scored by a computer for six areas of vocational interest which correspond with six personality types in Holland's (1973) theory of careers. The correspondence of vocational interest with personality types is established through a preference for certain activities, as indicated in Table 1 (adapted from Lamb & Prediger, 1981).

Insert Table 1 about here

Printouts of stanines for six areas of vocational interest were obtained from the subjects by the teacher, then these scores were sent to the researcher. These stanines were correlated by computer with scores on the three creativity measures from a year earlier.

Results

The results confirmed the hypotheses for the measure of creative performance and the GIFT more clearly than they did for the test of divergent thinking (see Table 2). Creative performance scores

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Insert Table 2 about here

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significantly predicted interest in the creative arts (r = .43, $p < .05$), as did scores on the GIFT (r = .40, $p < .05$). Divergent-thinking scores only tended to predict interest in the creative arts (r = .36, $p <$ .10).

Unhypothesized findings seemed equally important. Creative performance scores did not predict interest in any of the other five vocational areas, but GIFT scores significantly predicted interest in "business contact" (r = .63, $p < .01$) and "business organization" (r = .55, $p < .05$). Divergent-thinking scores predicted interest in business contact (r = .59, $p < .01$).

Discussion

These results offer preliminary evidence of the

accuracy of the creative performance measure to predict interest in the creative arts, including painting, designing, singing, dancing and writing. The creative performance measure appears to be more accurate for this purpose than a test of divergent thinking, and more specific than the Group Inventory for Finding Creative Talent.

The theoretical link between the creative performance score and interest in the creative arts is found in Holland's description of activities preferred by the artistic type (1973, p. 15):

> The special heredity and experience of the artistic person lead to a preference for ambiguous, free, unsystematized activities that entail the manipulation of physical, verbal, or human materials to create art forms or products, and to an aversion to explicit, systematic, and ordered activities.

Certainly drawing one's own ambiguous line and pattern for free verbal response is an activity which would appeal to the artistic type. Responding to someone else's ambiguous patterns and lines is less free, and may therefore result in a weaker correlation between

divergent thinking and interest in the creative arts.

The correlation of the creative performance score with interest in the creative arts was moderate, but not high. Either the test is a good, but not an excellent predictor of interest in this area, or it is not stable enough to be an excellent predictor in any area. Evidence for the second interpretation is the relatively low (.82) reliability of the creative performance score when compared with the reliabilities of scores on the other creativity measures. The reliability of creative performance can perhaps be raised by adding two more items calling for drawings by the examinee.

High correlations were unexpectedly obtained between scores on the other two creativity measures and interests in business. We must ask why, since these high and consistent correlations cannot be attributed to random statistical effects. Part of the answer may be found in the relationship between divergent thinking and salesmanship. Highly productive salespersons score more highly on divergent tests than less productive sales persons (Wallace, 1961; Torrance, 1974). Can it then be concluded that creativity is a

factor in sales productivity? Only to the extent that creativity can be identified with divergent thinking. But since nothing is created on a divergent-thinking test, the identification of divergent responses with creativity is questionable. What are produced are alternative interpretations, uses, consequences, etc., which are limited by the problem to be solved.

What future research may tell us is that divergent thinking is more closely related to interest and skill in persuading, influencing, motivating, and directing others than interest and skill in creative expression. This hypothesis is strongly suggested by the data, and would explain the value of "brainstorming" techniques in business, particularly in marketing fields such as advertising. Further hypotheses should acknowledge that divergent response may be marginally related to creativity, but that creativity involves finding problems, not just solving them freely, and is better measured by a test which calls for setting as well as solving problems. Only under the combined conditions of freedom to set and solve problems can creative responses be expected to emerge.

Another part of the answer may lie in a relationship between dimension scores on the GIFT (many interests, independence, and imagination) and sales productivity, but since the GIFT is limited to the elementary grades, there is little prospect that a hypothesized relationship could be investigated directly. Future research on this problem will have to be limited to the dimension scores and interest in the skills which collectively they seem to predict best, i.e. persuading, influencing, motivating, and directing people.

References

Holland, J. L. (1973). Making vocational choices. Englewood Cliffs, NJ: Prentice-Hall.

Lamb, R. R. & Prediger, D. J. (1981). Technical report for the unisex edition of the ACT interest inventory (UNIACT). Iowa City, IA: American College Testing Program.

Rimm, S. (1980). The Group Inventory for Finding Creative Talent (GIFT). Watertown, WI: Educational Assessment Service, Inc.

Rimm, S. (1984). The characteristics approach: Identification and beyond. Gifted Child Quarterly, 28, 181-187.

Torrance, E. P. (1974). Norms-technical manual for the Torrance tests of creative thinking. Bensenville, IL: Scholastic Testing Service.

Wakefield, J. F. (1985, March). Problem finding in a divergent-thinking exercise. Paper presented at the 1985 meeting of the Southeastern Psychological Association, Atlanta, GA. (ERIC Document Reprodction Service No. ED 253 978)

Wallace, H. R. (1961). Creative thinking: a factor in sales productivity. Vocational Guidance

Quarterly, 9, 223-226.

Wallach, M. A. & Kogan, N. (1965). Modes of thinking in young children. New York: Holt, Rinehart, and Winston.

Table 1

Correspondence Between Vocational Interests, Preferred Activities, and Personality Types

Vocational Interest	Preferred Activities	Personality Type
Science	investigating phenomena in the natural sciences thru reading, research and discussion	Investigative
Creative Arts	expressing oneself thru painting, designing, singing, dancing and writing	Artistic
Social Service	helping, enlightening, or serving others thru teaching and counseling or other service activities	Social
Business Contact	persuading, influencing, directing or motivating others	Enterprising
Business Detail	developing and/or maintaining accurate and orderly files; designing and/or following systematic procedures for business activities	Conventional
Technical	working with tools; designing, building, repairing machinery; raising crops, animals	Realistic

Table 2

Prediction of Vocational Interests from Scores on Creativity Measures

Creativity Measures	Vocational Interests					
	Science	Arts	Serv.	B.Con.	B.Org.	Tech.
Divergent	-.15	.36	.11	.59^{++}	.26	.18
Performance	.05	.43*	-.06	.41	.26	.37
Personality	.12	.40*	-.11	.63^{++}	.55^{+}	.30

*p<.05, one-tailed

$^{+}$p<.05, two-tailed

$^{++}$p<.01, two-tailed

Author Note

My thanks to Janet Hudiburg for introducing me to DISCOVER, and to Christia Williams, who kindly shared her students' data with me.